

## CLAIMS

What is claimed is:

- 1           1. A document feeder device comprising:  
2           a frame; and  
3           at least one cantilevered roller shaft for advancing a document, wherein an  
4           unsupported end of the at least one cantilevered roller shaft floats.
- 1           2. The device of claim 1 wherein a supported end of the at least one cantilevered  
2           roller shaft is supported at two support locations located outside a document path,  
3           wherein the document can be appropriately fed.
- 1           3. The device of claim 1 wherein a need for a rigid frame that directly supports the  
2           unsupported end is eliminated.
- 1           4. The device of claim 1 wherein the frame further comprises a main portion and  
2           front portion, and wherein the at least one cantilevered roller shaft is coupled to the main  
3           portion such that the at least one cantilevered roller shaft does not rely on the front  
4           portion for support.
- 1           5. The device of claim 1 wherein at least one gimbal roller is coupled to the at  
2           least one cantilevered roller shaft.
- 1           6. The device of claim 1 further comprising a second roller shaft coupled to the  
2           frame.

1           7. The device of claim 6 wherein the second roller shaft is cantilevered and  
2 wherein a second unsupported end of the second cantilevered roller shaft floats.

1           8. The device of claim 7 wherein a second supported end of the second roller  
2 shaft is supported at two second support locations located outside a document path,  
3 wherein the document can be appropriately fed.

1           9. The device of claim 6 wherein at least one gimbal roller is coupled to the  
2 second roller shaft.

1           10. A document feeder device comprising:  
2 a frame; and  
3 at least one cantilevered roller shaft for advancing a document, wherein the at  
4 least one cantilevered roller shaft comprises a distal end and a proximal end, and wherein  
5 the proximal end is coupled to the frame such that the distal end floats.

1           11. The device of claim 10 wherein a need for a rigid frame that directly supports  
2 the distal end is eliminated.

1           12. The device of claim 10 wherein the at least one cantilevered roller shaft is  
2 supported at two support locations at the proximal end, wherein the two support locations  
3 are located outside a document path.

1           13. The device of claim 10 wherein the frame further comprises a main portion  
2 and front portion, and wherein the at least one cantilevered roller shaft is coupled to the

3 main portion such that the at least one cantilevered roller shaft does not rely on the front  
4 portion for support.

1 14. The device of claim 10 wherein at least one gimbal roller is coupled to the at  
2 least one cantilevered roller shaft.

1 15. The device of claim 10 further comprising a second roller shaft coupled to the  
2 frame, the second roller shaft having a second distal end and a second proximal end.

1 16. The device of claim 15 wherein the second roller shaft is cantilevered and is  
2 coupled to the frame such that the second distal end floats.

1 17. The device of claim 16 wherein the second roller shaft is supported at two  
2 support locations at the second proximal end, wherein the two support locations are  
3 located outside a document path.

1 18. The device of claim 16 wherein the frame further comprises a main portion  
2 and front portion, and wherein the second roller shaft is coupled to the main portion such  
3 that the second roller shaft does not rely on the front portion for support.

1 19. The device of claim 15 wherein at least one gimbal roller is coupled to the  
2 second roller shaft.

1 20. A printer system comprising:  
2 a frame; and

3 at least one cantilevered roller shaft for advancing a document, wherein the at  
4 least one cantilevered roller shaft comprises a distal end and a proximal end, wherein the  
5 proximal end is coupled to the frame such that the distal end floats.

1 21. The system of claim 20 wherein a need for a rigid frame that directly supports  
2 the distal end is eliminated.

1 22. The system of claim 20 wherein the at least one cantilevered roller shaft is  
2 supported at two support locations at the proximal end, wherein the two support locations  
3 are located outside a document path.

1 23. The system of claim 20 wherein the frame further comprises a main portion  
2 and front portion, and wherein the at least one cantilevered roller shaft is coupled to the  
3 main portion such that the at least one cantilevered roller shaft does not rely on the front  
4 portion for support.

1 24. The system of claim 20 wherein at least one gimbal roller is coupled to the at  
2 least one cantilevered roller shaft.

1 25. The system of claim 20 further comprising a drive device coupled to the  
2 frame, wherein the drive device rotates the at least one shaft to advance the document.

1 26. The system of claim 20 further comprising a second roller shaft coupled to  
2 the frame, the second roller shaft having a second distal end and a second proximal end.

1 27. The system of claim 26 wherein the second roller shaft is cantilevered and is  
2 coupled to the frame such that the second distal end floats.

1           28. The system of claim 27 wherein the second roller shaft is supported at two  
2 support locations at the second proximal end, wherein the two support locations are  
3 located outside a document path.

1           29. The system of claim 27 wherein the frame further comprises a main portion  
2 and front portion, and wherein the second roller shaft is coupled to the main portion such  
3 that the second roller shaft does not rely on the front portion for support.

1           30. The system of claim 26 wherein at least one gimbal roller is coupled to the  
2 second roller shaft.

1           31. The system of claim 26 further comprising a drive device coupled to the  
2 frame, wherein the drive device rotates the second roller shaft to advance the document.

1           32. A method for feeding a document through a printer, the method comprising  
2 the steps of:

3           (a) providing at least one cantilevered roller shaft in the printer for advancing the  
4 document; and

5           (b) coupling a supported end of the at least one cantilevered roller shaft to a frame  
6 of the printer such that an unsupported end of the at least one cantilevered roller shaft  
7 floats.

1           33. The method of claim 32 further comprising the steps of:

2           (c) providing at least one roller coupled to the at least one cantilevered roller  
3 shaft;

4 (d) inserting the document in a document path of the printer until the document  
5 reaches the at least one roller; and

6 (e) rotating the at least one roller to advance the document along the paper path.

1 34. The method of claim 33 further comprising the step of (f) removing the  
2 document from the document path.

1 35. The method of claim 32 further comprising the step of (c) providing a second  
2 roller shaft for advancing the document.

1 36. The method of claim 35 further comprising the step of (d) coupling the  
2 second roller shaft to the frame of the printer.

1 37. The method of claim 35 further comprising the step of (d) coupling a second  
2 supported end of the second roller shaft to the frame of the printer such that a second  
3 unsupported end of the second cantilevered roller shaft floats.

1 38. The method of claim 36 further comprising the steps of:  
2 (e) providing at least one roller coupled to the at least one cantilevered roller  
3 shaft;

4 (f) providing at least one second roller coupled to the second roller shaft;

5 (g) inserting the document in a document path of the printer until the document  
6 reaches the at least one roller and the at least one second roller; and

7 (h) rotating the at least one roller and the at least one second roller to advance the  
8 document along the paper path.

1           39. The method of claim 38 further comprising the step of (i) removing the  
2 document from the document path.

1           40. A method for feeding a document through a printer, the method comprising  
2 the steps of:

3           (a) providing at least one cantilevered roller shaft in the printer for advancing the  
4 document, wherein the at least one cantilevered roller shaft comprises a distal end and a  
5 proximal end; and

6           (b) coupling the proximal end to a frame of the printer such that the distal end  
7 floats.

1           41. The method of claim 40 further comprising the steps of:

2           (c) providing at least one roller coupled to the at least one cantilevered roller  
3 shaft;

4           (d) inserting the document in a document path of the printer until the document  
5 reaches the at least one roller; and

6           (e) rotating the at least one roller to advance the document along the paper path.

1           42. The method of claim 41 further comprising the step of (f) removing the  
2 document from the document path.

1           43. The method of claim 40 further comprising the step of (c) providing a second  
2 roller shaft for advancing the document, wherein the second roller shaft comprises a  
3 second distal end and a second proximal end.

1           44. The method of claim 43 further comprising the step of (d) coupling the  
2 second roller shaft to the frame of the printer.

1           45. The method of claim 43 further comprising the step of (d) coupling the  
2 second proximal end to the frame of the printer such that the second roller shaft is  
3 cantilevered and the second distal end floats.

1           46. The method of claim 44 further comprising the steps of:

2           (e) providing at least one roller coupled to the at least one cantilevered roller  
3 shaft;

4           (f) providing at least one second roller coupled to the second roller shaft;

5           (g) inserting the document in a document path of the printer until the document  
6 reaches the at least one roller and the at least one second roller; and

7           (h) rotating the at least one roller and the at least one second roller to advance the  
8 document along the paper path.

1           47. The method of claim 46 further comprising the step of (i) removing the  
2 document from the document path.